

**United States Court of Appeals
for the Eighth Circuit**

NATIONAL STONE, SAND AND GRAVEL ASSOCIATION, ET AL.,
Petitioners,

v.

MINE SAFETY & HEALTH ADMINISTRATION, ET AL.,
Respondents.

**PETITION FOR REVIEW OF A RULE OF THE
FEDERAL MINE SAFETY & HEALTH ADMINISTRATION**

**OPENING BRIEF FOR PETITIONERS
NATIONAL STONE, SAND & GRAVEL ASSOCIATION, ET AL.**

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SUMMARY OF THE CASE

The Mine Safety and Health Administration (“MSHA”) promulgated a rule in April 2024 that roughly halved the permissible exposure limit (“PEL”) for respirable silica dust in mines from about 100 micrograms per cubic meter (“ $\mu\text{g}/\text{m}^3$ ”) to 50 $\mu\text{g}/\text{m}^3$. 30 C.F.R. 60.1 *et seq.* Petitioners took no issue with the lower 50 $\mu\text{g}/\text{m}^3$ figure, but rather objected to MSHA’s additional decisions to: (1) restrict the means to comply with the PEL (reversing and contradicting itself without explanation), (2) mandate an expensive and unreliable sampling methodology as the exclusive means of showing compliance with the PEL, and (3) institute medical surveillance of miners that is wholly divorced from exposure to risk and is based on assumptions that are unsupported by the record. Not only is MSHA’s approach unsupported by substantial evidence, inconsistent with MSHA’s precedents, and contrary to the Mine Safety and Health Act of 1977 (“Mine Act”), the agency’s rationale was illogical and internally contradictory. MSHA failed to engage in reasoned decision-making and contravened its enabling statute. MSHA’s rule is unlawful and must be vacated.

Petitioners respectfully request 25 minutes for oral argument to assist in consideration of this matter, which involves a rule of substantial significance across an entire industrial sector; complex issues of statutory interpretation; and a voluminous administrative record.

CORPORATE DISCLOSURE STATEMENT

Per Federal Rule of Appellate Procedure 26.1 and Eighth Circuit Rule of Appellate Procedure 26.1, petitioners state:

The National Stone, Sand, and Gravel Association (“NSSGA”) is a nonprofit corporation. NSSGA has no parent company, nor is NSSGA publicly traded. No publicly held company has ten percent or greater ownership in NSSGA.

The American Exploration & Mining Association (“AEMA”) is a nonprofit corporation. AEMA has no parent company, nor is AEMA publicly traded. No publicly held company has ten percent or greater ownership in AEMA.

The American Iron and Steel Institute (“AISI”) is a nonprofit corporation. AISI has no parent company, nor is AISI publicly traded. No publicly held company has ten percent or greater ownership in AISI.

The National Mining Association (“NMA”) is a nonprofit corporation. NMA has no parent company, nor is NMA publicly traded. No publicly held company has ten percent or greater ownership in NMA.

The Portland Cement Association (“PCA”) is a nonprofit corporation. PCA has no parent company, nor is PCA publicly traded. No publicly held company has ten percent or greater ownership in PCA.

The Texas Aggregates & Concrete Association (“TACA”) is a nonprofit corporation. TACA has no parent company, nor is TACA publicly traded. No publicly held company has ten percent or greater ownership in TACA.

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INTRODUCTION

Congress directed MSHA—as laid out in the Mine Act—to “protect the health and safety of the Nation’s coal or other miners” while ensuring “the future growth of the coal or other mining industry.” 30 U.S.C. 801(d), (g). MSHA and the Occupational Safety and Health Administration (“OSHA”), its sister component within the Labor Department, cooperate to regulate workplaces through an interagency agreement dividing their responsibilities. 44 Fed. Reg. 22,827 (Apr. 17, 1979). MSHA regulates conditions within mines themselves, at milling sites, and land or structures used for mining or milling, while OSHA regulates manufacturing like smelters and certain refineries.¹ *Id.* MSHA’s new rule on respirable crystalline silica (the “Silica Rule” or “Rule”) was supposedly driven by the admirable goal of bringing its permissible exposure limit (“PEL”) in line with OSHA’s.

But the Rule actually fails to secure the protection of miners while simultaneously sacrificing the growth of the mining industry. The Rule (1) severely limits compliance methods in a manner contrary to its stated purpose of reducing miners’ overall exposure to silica; (2) narrows how mines can achieve compliance with the Rule thereby rendering compliance infeasible; and (3) introduces mandatory medical screening requirements divorced from any miner’s actual

¹ In this Brief, the terms “mine operator,” “mining operations,” and similar phrases refer to operators or activities under MSHA’s purview.

exposure and thus contrary to protecting the most-exposed miners. The industry urged MSHA to adopt the highly protective but sensible, risk-based standard that OSHA had adopted after its own review of extensive medical and scientific literature. App._; MSHA-2023-0001-1424, p.3; App._; MSHA-2023-0001-1428, p.4; App._; MSHA-2023-0001-1448, p.36. Instead, MSHA insisted on a standard that, while incorporating a 50 µg/m³ PEL, is far more difficult and restrictive—with no justification and no evaluation of the consequences. MSHA’s standard includes difficult additional restrictions and requirements that OSHA eschewed.

Not only do these restrictions undermine miner safety and health, their promulgation violates basic principles of administrative law developed, in part, to rein in poorly reasoned regulations such as the Silica Rule. MSHA “relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, [and] offered an explanation for its decision ... counter to the evidence before the agency, [and which] is ... implausible.” *McClung v. Paul*, 788 F.3d 822, 828 (8th Cir. 2015). Vacatur of the Rule is accordingly warranted. *See Standing Rock Sioux Tribe v. U.S. Army Corps of Eng’rs*, 985 F.3d 1032, 1050 (D.C. Cir. 2021) (“The ordinary practice ... is to vacate unlawful agency action.”); *Iowa League of Cities v. EPA*, 711 F.3d 844, 875-76 (8th Cir. 2018) (vacating EPA rule for procedural deficiencies).

JURISDICTION

MSHA published the Silica Rule under Mine Act section 101, 30 U.S.C. 811. 89 Fed. Reg. 28,218 (Apr. 18, 2024). The Rule prohibits mine operators from exposing workers to more than a specified level of silica, and requires them to undertake a range of technical, operational, and administrative measures related to that prohibition.

Petitioners, six trade associations, have standing under *Iowa League of Cities*, 711 F.3d at 869. Each is a nonprofit membership organization focused on advancing the interests of its respective industry—chiefly, mining and mineral extraction—including on such matters as health-and-safety regulation. Each has members operating mines subject to the Rule, that must conduct various actions to comply. Petitioner’s proposed supplemental addendum presents these facts. Doc. 5464486. Vacatur of the Rule will largely redress those injuries. “[W]hen government action ... is challenged by a party who is a target or object of that action, ... ‘there is ordinarily little question that the action ... has caused him injury, and that a judgment preventing ... the action will redress it.’” *Monson v. DEA*, 589 F.3d 952, 958 (8th Cir. 2009) (alterations in original; citation omitted).

Mine Act section 101(d) empowers the Court to review the Rule. 30 U.S.C. 811(d). Petitioners commented in the rulemaking, and then timely filed

their petition in the Fifth Circuit on June 12, 2024. The Fifth Circuit transferred to this Court pursuant to 28 U.S.C. 2112.

ISSUES PRESENTED

1. Whether the Rule is arbitrary and capricious and contrary to law because it prohibits sensible compliance methods that have been permitted under past MSHA rules, National Institute for Occupational Safety and Health (“NIOSH”) guidelines, and OSHA’s comparable silica rule.
 - 30 U.S.C. 811(a)
 - *Transactive Corp. v. United States*, 91 F.3d 232 (D.C. Cir. 1996)
 - *Physicians for Soc. Resp. v. Wheeler*, 956 F.3d 634 (D.C. Cir. 2020)
 - *Firearms Regul. Accountability Coal., Inc. v. Garland*, 112 F.4th 507 (8th Cir. 2024)
2. Whether MSHA failed to assess properly the feasibility of the new standard.
 - 30 U.S.C. 811(a)
 - *Am. Textile Mfrs. Inst. v. Donovan*, 452 U.S. 490 (1981)
 - *Kennecott Greens Creek Mining Co. v. MSHA*, 476 F.3d 946 (D.C. Cir. 2007)
3. Whether MSHA’s silica standard is arbitrary and capricious because MSHA ignored a basic principle of measurement and industrial hygiene that measurements have uncertainty.

- *Motor Vehicle Mfrs. Ass'n of U.S., Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29 (1983)

4. Whether MSHA's insistence on sampling at all mines, regardless of circumstance, was arbitrary and capricious.

- *Evergreen Shipping Agency (Am.) Corp. v. Fed. Mar. Comm'n*, 106 F.4th 1113 (D.C. Cir. 2024)
- *GameFly, Inc. v. Postal Regul. Comm'n*, 704 F.3d 145 (D.C. Cir. 2013)

5. Whether the Rule's medical surveillance requirements exceed MSHA's statutory authority and are arbitrary and capricious.

- 30 U.S.C. 811(a)(7)
- *Red River Valley Sugarbeet Growers Ass'n v. Regan*, 85 F.4th 881 (8th Cir. 2023)
- *Citizens Telecomms. Co. of Minn., LLC v. FCC*, 901 F.3d 991 (8th Cir. 2018)

STATEMENT OF THE CASE

I. MSHA REGULATES HEALTH AND SAFETY IN MINING.

Under federal workplace safety laws enacted (in contemporary form) in the 1970s, the Secretary of Labor issues health and safety standards for workplaces in general under the Occupational Safety and Health Act ("OSH Act"), 29 U.S.C. 651 *et seq.*, and for mines under the Mine Act, 30 U.S.C. 801 *et seq.* The Secretary

delegated OSH Act authority to OSHA and Mine Act authority to MSHA. Since then, the two agencies have operated in parallel collaboration and coordination. 44 Fed. Reg. 22,827. The Mine Act calls for standards that “most adequately assure on the basis of the best available evidence that no miner will suffer material impairment of health,” while accounting for “the feasibility of the standards.” 30 U.S.C. 811(a)(6)(A). Meanwhile, the OSH Act mandates standards that “most adequately assure[], to the extent feasible, on the basis of the best available evidence, that no employee will suffer material impairment of health.” 29 U.S.C. 655(b)(5).

The Mine Act’s goals include “protect[ing] the health and safety of the Nation’s coal or other miners” and ensuring “the future growth of the coal or other mining industry.” 30 U.S.C. 801(d), (g). MSHA standards must be based “upon research, demonstrations, [and] experiments.” 30 U.S.C. 811(a)(6)(A). Consistent with the statute’s multiple goals, “the attainment of the highest degree of health and safety protection” is not the sole, overriding factor in setting a standard. *Id.* “[O]ther considerations shall be the latest available scientific data in the field, the feasibility of the standards, and experience gained under this and other health and safety laws.” *Id.*

MSHA’s standards “shall also prescribe suitable protective equipment and control or technological procedures ... and shall provide for monitoring or measuring miner exposure.” 30 U.S.C. 811(a)(7). The statute also specifies that

“where a determination is made that a miner may suffer material impairment of health or functional capacity by reason of exposure to the hazard covered by such mandatory standard, that miner shall be removed from such exposure and reassigned.” *Id.*

The Mine Act gives MSHA a limited authority to mandate employer-provided medical examinations for “miners exposed to [identified] hazards.” *Id.* The purpose for such mandated examinations must be “to most effectively determine whether the health of such miners is adversely affected by such exposure.” *Id.*

MSHA-regulated mines come in many varieties, depending on the mineral being extracted. They range from small gravel quarries to coal mines; underground metal mines to surface operations pumping aggregate slurry; surface mines gathering phosphate rock to lithium mines that deliver mineral-rich brine to evaporation pools; and more. The vast majority of mines are above-ground, and over half of those are sand or gravel operations.² Mining operations include not only direct extraction, but also processing and/or beneficiation operations on the surface. MSHA broadly divides mines into two categories—coal and metal/non-metal. MSHA further divides metal/non-metal mines into “five commodity groups: metal, nonmetal,

² Centers for Disease Control, *NIOSH Mine and Mine Worker Charts* <https://www.cdc.gov/NIOSH-Mining/MMWC> (last visited Nov. 21, 2024) (reporting 12,091 surface mines in 2022, including 6,162 for sand and gravel, contrasted with only 472 underground mines). Most miners are also in surface mines—274,473 miners, while only 39,991 work in underground mines. *Id.*

stone, crushed limestone, and sand and gravel.” 89 Fed. Reg. at 28,221. “[T]here are far more [metal/non-metal] mines in the U.S. compared to coal mines”; MSHA counts 11,231 metal/non-metal mines of all types (~92.3% of mines), compared to just 931 coal mines (~7.7% of mines). *Id.* at 28,294. For this wide variety of mines, MSHA established a single, monolithic PEL, with just two compliance dates. Metal/non-metal mines must comply with the Rule by April 8, 2026; for coal mines compliance is due on April 14, 2025. *Id.* at 28,218.

II. EXISTING SAFETY REGULATIONS ADDRESS SILICA EXPOSURE.

The substance at issue is crystalline silica, *i.e.*, silicon dioxide. Crystalline silica, ubiquitous in the physical environment, can take various forms. The most common is quartz, the second-most-common substance in the Earth, making up about 12% of Earth’s crust. Cristobalite and tridymite are other far less common forms. (Silica can also be amorphous, as in ordinary glass; MSHA’s Rule does not address amorphous silica.) The silica of concern is respirable particles, *i.e.*, under 10 microns in diameter and consequently able to be inhaled to the alveoli in the lungs.³ This Brief uses the term “silica,” for brevity, to refer only to the respirable crystalline material covered by the Rule.

³ MSHA, *Health Inspection Procedures Handbook* (2020), <https://arlweb.msha.gov/readroom/handbook/ph20-v-4.pdf> (further describing respirable dust).

For metal/non-metal mines, MSHA’s predecessor agency maintained exposure limits involving a complex formula at roughly 100 $\mu\text{g}/\text{m}^3$. 89 Fed. Reg. at 28,218. For coal mines, the Mine Act’s predecessor statute also set a limit of 100 $\mu\text{g}/\text{m}^3$. *Id.* These limits refer to the concentration of silica in the air—how many micrograms in a cubic-meter volume.

OSHA’s original exposure limit involved a more complicated formula. 81 Fed. Reg. 16,286, 16,294 (Mar. 25, 2016) (surveying the history of OSHA’s silica standards). In 1989, OSHA revised its standard to track the metal/non-metal standard, with similar limits of roughly 100 $\mu\text{g}/\text{m}^3$ (depending on the type of silica) averaged over 8 hours. *Id.* at 16,295.

In March 2016, responding to a NIOSH recommendation, OSHA revised its PEL to 50 $\mu\text{g}/\text{m}^3$ for all covered types of silica. *Id.* at 16,286. OSHA allows employers to use both engineering controls and “work practice[s]” to achieve the PEL; if it is not feasible by those means, an employer can provide appropriate respirators to reach the PEL. 29 C.F.R. 1910.1053(f)(1). Employers assess compliance using “any combination of air monitoring data or objective data sufficient to accurately characterize employee exposures.” 29 C.F.R. 1910.1053(d)(2). OSHA also set an “action level” of 25 $\mu\text{g}/\text{m}^3$; above that level, an employer must take additional steps, and sample more frequently, to ensure exposures do not rise to the PEL. 29 C.F.R. 1910.1053(d)(3)(iii).

OSHA's standard governs most employers. But it does not apply to mining operations, per its division of responsibilities with MSHA. Mines remained subject to the previous limits. 89 Fed. Reg. at 28,218-28,219.

III. MSHA PURPORTED TO ADOPT THE SAME STANDARD AS OSHA BUT ACTUALLY DEVIATED SIGNIFICANTLY.

In July 2023, MSHA proposed a PEL of 50 µg/m³, averaged over 8 hours, for three types of silica. 88 Fed. Reg. 44,852 (July 13, 2023). That PEL was the same as OSHA's. But MSHA's proposed regulation deviated in ways that would make the standard substantially more onerous, to the point of being unjustifiable. Petitioners urged MSHA to align with the OSHA regulation. App._; MSHA-2023-0001-1424, p.3; App._; MSHA-2023-0001-1428, p.4; App._; MSHA-2023-0001-1448, p.36. They told MSHA they were supportive of 50 µg/m³ as a PEL, but that the details of the regulation are critical for it to be workable. *Id.*

MSHA published the Silica Rule in April 2024, just nine months after its proposal. MSHA ignored petitioners' pleas, and insisted on its own regulatory path—different from OSHA's in multiple significant ways. First, unlike OSHA's rule, the Silica Rule does not allow an employer to use objective data to show its workers are not exposed to pertinent levels of silica. Instead, even with evidence showing no exposure risk, every mine operator must undertake an initial program of sampling “to assess the full shift ... exposure ... for each miner who is or may reasonably be expected to be exposed” to silica. 89 Fed. Reg. at 28,471;

30 C.F.R. 60.12(a). Mine operators can limit initial sampling to a representative number of workers, but must sample at least two for any given task, shift, and work area. 30 C.F.R. 60.12(e)(3). If a sample comes back above the action level (25 µg/m³), but below the PEL (50 µg/m³), the operator must continue to sample within three months and keep sampling unless and until two measurements are below the action level. 30 C.F.R. 60.12(a)(4). At least every six months (more often if any of various circumstances changes), an operator must assess whether there have been any changes to processes, equipment, mining conditions, etc., that are “reasonably expected to result in new or increased” exposures. 30 C.F.R. 60.12(c).

In other contexts, MSHA has recognized the uncertainties of sampling and measurement in determining concentration levels. For example, MSHA’s 2014 rule limiting coal dust exposures set a PEL but further specified there would only be a violation if 2 out of 5 samples (or 3 out of 15) exceeded a specified value a certain amount above the PEL. 79 Fed. Reg. 24,814, 24,868 (May 1, 2014). That approach—considering “the margin of error between the true dust concentration ... and the observed dust concentration measurement”—was necessary for statistical confidence that the sampling measurements represented actual exposure above the PEL. *Id.*; App. __; MSHA-2023-0001-1428, p.14 (comment advocating a similar approach for silica). Similarly, for silica, substantial uncertainties and potential errors can cause a measurement result to deviate above

or below the true concentration in the air, and multiple non-regulated minerals can interfere with the measurement of how much silica is in a sample. App._; MSHA-2023-0001-0956, pp.30, 38-39. MSHA’s action level of 25 µg/m³ is near the limit of what its measurement tools can detect. *Id.* at 27. And sample-to-sample variations can range by a factor of four—so that a mine operator could present samples from the same mining operation to different analytical laboratories and receive results that vary from below the action level to above the PEL. App._; MSHA-2023-0001-0026, p.19; App._; MSHA-2023-0001-0038, p.6. Nonetheless, under the Silica Rule any single sample that is even a small fraction above the PEL constitutes a violation. 30 C.F.R. 60.10.

Second, unlike OSHA’s rule, the Silica Rule does not allow an operator to choose the best mix of engineering controls and work practices to manage exposures. MSHA insists a mine must use engineering controls—features built into the working environment of the mine, such as ventilation systems or sprayers to reduce dust, 89 Fed. Reg. at 28,223—and may use “administrative controls”—such as “work practices that reduce the duration, frequency, or intensity of miners’ exposure,” *id.* at 28,282—only as a supplement “when necessary,” *id.* at 28,471. MSHA specifically prohibited control of silica exposure using the most directly effective work practice, namely, rotating miners on- and off-task to limit the duration of exposure. 30 C.F.R. 60.11(b). And the Rule does not allow use of respirators when

achieving compliance with the PEL is infeasible using only engineering and administrative controls. Instead, an operator may rely on respirators only temporarily in certain limited circumstances: while “[e]ngineering control measures are being developed and implemented”; for particular short-term tasks such as “entry into hazardous atmospheres to perform maintenance or investigation”; or when miners have exceeded the PEL and the mine is taking corrective action. 30 C.F.R. 60.13-60.14.

Thus, while the Silica Rule has the same numerical PEL as OSHA’s rule, the meaning of that number is significantly different. MSHA’s Rule imposes a far stricter and inherently arbitrary standard, compared to OSHA’s.

Third, MSHA is requiring mine operators to undertake substantial medical surveillance of their workers without regard to exposure or risk—contrary to OSHA’s adoption of a risk-based approach. App._; MSHA-2023-0001-1428, pp.12-14. On an ongoing basis, the operator must offer every worker a medical examination—which the worker can accept or decline—including a chest X-ray, a physical exam, a medical history survey, and a “pulmonary function test” with a spirometer. 30 C.F.R. 60.15(a). The operator must make these examinations available within 12 months after the Rule’s compliance date and then every 5 years thereafter. 30 C.F.R. 60.15(b). For every *new* miner in the future, these medical examinations are mandatory and must take place within 60 days of the start of work

and then three years later. 30 C.F.R. 60.15(c). The examinations would then be more frequent if the results suggest decreased lung function. 30 C.F.R. 60.15(c)(3).

The chest X-rays must be reviewed by qualified “B readers” who are trained for medical assessment of such images. 30 C.F.R. 60.15(a)(2)(iii). The B readers must report their assessments of worker X-rays (the “classification”) to NIOSH. 30 C.F.R. 60.15(d)(2).

SUMMARY OF THE ARGUMENT

Petitioners have not objected to 50 µg/m³ as a PEL, and were supportive of a standard like OSHA’s. But MSHA’s approach is fatally flawed, and is not supported by substantial evidence that MSHA’s standard is feasible.

First, the Silica Rule imposes significant restrictions on methods for achieving the PEL. Mine operators routinely rotate workers to limit their cumulative exposure to hazards. MSHA has long permitted that approach for silica and for certain known carcinogens, and OSHA’s 2016 rule explicitly allows rotation as a control against silica exposure. MSHA’s Rule prohibits that approach, asserting a longstanding ban on rotating workers into carcinogenic hazards. That assertion is contrary to MSHA’s own precedents; and contrary to the record showing briefer exposures to silica do not generate significant risks. Respirators are another tool routinely used where engineering methods are infeasible to get below the applicable limits. The Rule prohibited that approach too, because MSHA claimed respirators are ineffective—

in stark contrast to OSHA’s conclusions, with no adequate explanation or evidence. Meanwhile MSHA continues to allow respirators for other dust exposures, including carcinogens.

Second, under the Silica Rule any measurement above the PEL constitutes a violation. This posture is contrary to MSHA’s past practice and generally accepted approaches used by numerous agencies in addressing the inherent uncertainties in sampling measurements. MSHA itself specifies error factors to address uncertainties for comparable measurements of other hazards. It gave no good reason for departing from those standard practices.

Third, having made compliance with the standard much harder, MSHA irrationally concluded that compliance is feasible. But it based that conclusion on past data that do not reflect the Rule’s new restrictions. And its analysis failed to recognize that certain activities at a given mine present greater challenges than others. Because of that oversight, and the way MSHA presented its data, MSHA drew its feasibility conclusion without evidence that even a single mine would actually be able to meet the new standard.

Fourth, MSHA abandoned its proposal to allow mines to demonstrate compliance with data other than intrusive sampling. MSHA asserted that approach would be too subjective, a characterization contrary to MSHA’s actual proposal that made this alternative available only for “objective data.”

Finally, the Rule imposes mandatory medical screening requirements for new miners prior to silica exposure. These requirements are divorced from exposure to any hazard and thus unmoored from the relevant statutory authority. The mandatory screening requirements prioritize miners with no hazard exposure over those with potential exposure to hazards. The medical screening requirements are both contrary to law and arbitrary and capricious.

STANDARD OF REVIEW

Review under Mine Act section 101(d) uses Administrative Procedure Act (“APA”) standards. *United Steel, Paper & Forestry, Rubber, Mfg., Energy, Allied Indus. & Serv. Workers Int’l Union v. MSHA*, 925 F.3d 1279, 1283 (D.C. Cir. 2019). A rule is arbitrary and capricious if “the agency has relied on factors which Congress has not intended it to consider, entirely failed to consider an important aspect of the problem, offered an explanation for its decision that runs counter to the evidence before the agency, or is so implausible that it could not be ascribed to a difference in view or the product of agency expertise.” *McClung*, 788 F.3d at 828 (quoting *State Farm*, 463 U.S. 29). An agency must “examine the relevant data and articulate a satisfactory explanation for its action including a rational connection between the facts found and the choice made.” *Rauenhorst v. U.S. Dep’t of Transp., Fed. Highway Admin.*, 95 F.3d 715, 719 (8th Cir. 1996). To survive review, a rule must be “rational, based on consideration of the relevant factors and within the scope of

the authority delegated to the agency by the statute.” *Mausolf v. Babbitt*, 125 F.3d 661, 669 (8th Cir. 1997).

Under “traditional administrative law principles,” a rule is also arbitrary and capricious “if the agency … has reached a conclusion unsupported by substantial evidence.” *New York v. EPA*, 413 F.3d 3, 18 (D.C. Cir. 2005); *see also Lincoln v. Vigil*, 508 U.S. 182, 198 (1993) (noting “the substantial-evidence test applies … where ‘agency action is taken pursuant to [the] rulemaking provision[s]’” of the APA). The Court “must consider the whole record … , including ‘whatever in the record fairly detracts’ from the evidence supporting the agency’s decision.” *Genuine Parts Co. v. EPA*, 890 F.3d 304, 312 (D.C. Cir. 2018) (quoting *Universal Camera Corp. v. NLRB*, 340 U.S. 474 (1951)). “[E]vidence that is substantial viewed in isolation may become insubstantial when contradictory evidence is taken into account.” *Landry v. FDIC*, 204 F.3d 1125, 1140 (D.C. Cir. 2000).

Interpretation of the Mine Act is the province of the Court, which must exercise its “independent judgment” using “all relevant interpretive tools” to identify the “best” interpretation. *Loper Bright Enters. v. Raimondo*, 144 S. Ct. 2244, 2266, 2273 (2024).

ARGUMENT

The Rule is far more restrictive than the PEL alone reveals. MSHA concluded the PEL is feasible for mine operators based on an assertion that a significant portion

of existing mines reach it. But MSHA's conclusion ignores the full range of techniques to manage exposure under current law, and that it is not generally possible for mines to reach 50 µg/m³, in all activities, without respirators. In deeming the new standard feasible, MSHA failed to evaluate the impact of the Rule's prohibition on traditional tools for managing exposures. MSHA's restrictions on how to achieve the PEL are unwarranted; its limitations on how to establish compliance are arbitrary and capricious; and the intrusive, mandatory medical surveillance goes far beyond what is justifiable or even permissible under the Mine Act.

I. MSHA'S PEL IS ARBITRARY AND CAPRICIOUS GIVEN MSHA'S RESTRICTIONS ON EXPOSURE CONTROLS.

The Silica Rule reduced the PEL while also significantly restricting how a mine operator may comply. As explained above, p.14, *supra*, the Rule prohibits compliance by (1) rotating miners in and out of various tasks and areas to reduce their silica exposure, 30 C.F.R. 60.11(b); and (2) relying on respirators to limit exposure. 30 C.F.R. 60.13-60.14. These restrictions make the PEL infeasible; and adopting the PEL while prohibiting some of the most effective and efficient means for achieving it was arbitrary and capricious.

A. MSHA’s prohibition on job rotation is contrary to the statute and inconsistent with MSHA’s treatment of comparable hazards.

Mine operators routinely use administrative controls and work practices to manage their workers’ exposure to various hazards. Rotation is among the most important techniques, particularly for health risks arising on a cumulative basis, *i.e.*, risks that depend on total exposure over time. A natural and sensible way to manage such risk is to limit the duration of exposure. Accordingly, an operator would rotate a worker out of a task or area that involved exposure to a hazard.

Such job rotation is commonplace and “historically has been used to lower miners’ exposures.” 89 Fed. Reg. at 28,319. Indeed, MSHA allows this approach for other hazards. Its rule on noise exposure acknowledged that “administrative controls [like shift rotation] can be as effective as engineering controls and are typically less costly.” 64 Fed. Reg. 49,548, 49,597 (Sept. 13, 1999). MSHA’s regulations do not prohibit rotation for controlling exposure to radiation. 30 C.F.R. 57.5037 *et seq.* (radon).

OSHA regulations explicitly allow rotation of workers for such purposes. For example: “[R]otating employees into and out of contaminated areas in the course of a shift” reduces “the full shift exposure of any given employee.”⁴ Indeed, OSHA

⁴ OSHA Technical Manual § 5, ch. 3, pt. II.B.10.b, *Controlling Lead Exposures in the Construction Industry: Engineering and Work Practice Controls*, <https://www.osha.gov/otm/section-5-construction-operations/chapter-3>.

specifically allowed rotation for reducing exposure to silica. 81 Fed. Reg. at 16,789-16,790. While OSHA did not regard rotation as a proper substitute for feasible controls of other types, it understood “there may be situations where employee rotation may be an acceptable measure.” *Id.* That decision was consistent with management and regulation of silica exposure over the preceding four decades. Indeed, “the industry consensus standards for respirable crystalline silica … expressly permit employee rotation as an administrative control to limit exposures.” *Id.* at 16,789. MSHA knew the principal standard that OSHA cited, App. __; MSHA-2023-0001-1226, but did not mention it.

1. Without job rotation, the new standard is not feasible.

MSHA must reasonably conclude, in imposing a new standard, that the standard is both “technological[ly] and economic[ally] feasib[le].” 30 U.S.C. 811(a)(6)(A); *Nat'l Mining Ass'n v. Sec'y of Labor*, 153 F.3d 1264, 1269 & n.5 (11th Cir. 1998) (vacating a standard for MSHA’s failure to find it feasible). Because MSHA rejects job rotation, the agency lacks substantial evidence that the new Rule is feasible.

Traditionally, MSHA has understood the relevant inquiry as whether “the industry can generally comply with the standard within an allotted period of time”; and MSHA has said it must “demonstrate a reasonable probability that the typical mine operator will be able to develop and install controls meeting the standard.”

64 Fed. Reg. at 49,589. Here, MSHA’s putative support for that determination was sampling data collected during inspections of mines, from which MSHA concluded that “[m]any mine operators already maintain respirable crystalline silica exposures at or below the final rule’s PEL.” 89 Fed. Reg. at 28,276. But those samples were taken during existing, ongoing operations where mine operators use both engineering controls and administrative controls—including job rotation. *Id.*

Engineering controls alone cannot make the standard feasible. Commenters demonstrated that for various reasons at different kinds of mines, “engineering controls [are] ineffective.” *Id.* at 28,284. For example, “[v]entilation controls” are “less effective” for silica sources such as “an entire mill or crushing facility”; dust control measures are ineffective for “activities that take place outside in windy conditions.”⁵ App._; MSHA-2023-0001-1428, p.6. Given the mix of controls in current use at various mines, the evidence shows that engineering controls alone cannot reduce exposures below the new PEL. App._; MSHA-2023-0001-1428, p.6. MSHA did not refute these observations. Instead, it asserted that “[b]y adding administrative controls (or procedural practices) mines routinely achieve consistent compliance.” 89 Fed. Reg. at 28,284. Just so. Those administrative controls and

⁵ Mines are not all underground, and even for underground mines there are often substantial activities above ground, still subject to MSHA’s Rule.

procedural practices are necessary for compliance to be feasible, and MSHA admitted as much in its determination.

Those controls *include job rotation*. As noted, MSHA relied on sampling data collected during inspections. As petitioners emphasized, mine operators routinely rotate miners, during their shifts, out of tasks involving exposure to various hazards, App.__; MSHA-2023-0001-1424, p.7; App.__; MSHA-2023-0001-1428, p.8; App.__; MSHA-2023-0001-1448, p.4, particularly given that MSHA's own rules contemplate such rotation to manage various hazard exposures. Pp.19-20, *supra*. So MSHA's data included, and depended on, job rotation.

Moreover, rotation is one of the “procedural practices” used to “routinely achieve consistent compliance.” 89 Fed. Reg. at 28,284. MSHA invoked NIOSH guides as the source for such practices: “[T]here is always a way to eliminate overexposures to respirable dust,” MSHA said, “by using the information contained in NIOSH best practice guides for mines.” 89 Fed. Reg. at 28,284. Those guides say “[j]ob rotation and reduction of work periods can help manage worker exposure.” App.__; MSHA-2023-0001-1448, pp.14-15.

Since MSHA relied on operators’ existing practices, including reliance on administrative controls, to show the PEL is achievable, and MSHA’s data came from existing operations making wide use of job rotation, its conclusion about feasibility

was unavoidably based on the use, by many mines, of job rotation alongside other controls.

While “substantial evidence” may be a deferential standard, it does not permit an agency to ignore the true character of the evidence it uses. “[A]n agency cannot ignore evidence that undercuts its judgment;” and cannot “rely on a ‘clipped view of the record.’” *Genuine Parts*, 890 F.3d at 312 (citation omitted). “One aspect of the arbitrary and capricious review is … whether the agency ‘offered an explanation for its decision that runs counter to the evidence before the agency.’” *Sugule v. Frazier*, 639 F.3d 406, 411 (8th Cir. 2011).

What MSHA needed to find, to justify the Rule, was not simply that a $50 \mu\text{g}/\text{m}^3$ PEL is “feasible” in the abstract. The “standard” is not just the number, but the rules giving meaning to the number. That includes the definition of how exposure is calculated towards the PEL (*i.e.*, a time-weighted average over a worker’s shift, scaled to eight hours); rules about how to measure a worker’s exposure (requirements about the methods for sampling and measuring the silica); and, certainly, the restrictions on what methods are permissible for achieving the PEL. Given these restrictions, MSHA cannot analogize the OSHA standard to assert feasibility of its own PEL. MSHA made no assessment, anywhere in the Rule, that *this* standard is feasible. Rather, it assessed a hypothetical standard by using the same numerical PEL, without accounting for the change in compliance restrictions.

For a conclusion that compliance is feasible, the fact that the Rule prohibited key tools traditionally used for compliance was surely an “important aspect of the problem,” that MSHA failed to consider. *Red River Valley*, 85 F.4th at 886 (citations omitted).

2. MSHA’s explanation for prohibiting job rotation was arbitrary and capricious.

Petitioners told MSHA that OSHA’s standard is sensible precisely because of how OSHA regulates compliance; and that MSHA’s proposal, while using the same numerical PEL, is unworkable because of restrictions like the one on job rotation. Given those comments, MSHA needed to have a sound reason for prohibiting rotation as a method of compliance.

It did not. MSHA gave three reasons for its prohibition. First, MSHA asserted “engineering and administrative controls can feasibly reduce exposure levels below the PEL.” 89 Fed. Reg. at 28,284. That statement is circular, because as explained above, the administrative controls included in MSHA’s feasibility analysis included rotation.

Second, MSHA said job rotation “does not address the root cause of the hazard [and] requires continuous attention and actions on the part of miners and management.” *Id.* at 28,319. That explanation is irrational, because those observations are equally applicable to hazards like heat, noise, and radiation—hazards for which MSHA allows rotation as an administrative control. And those

statements are equally applicable to *every* administrative control. MSHA made those very observations about other administrative controls, *id.* at 28,283, and these characteristics—requiring human attention and action—are exactly why MSHA said administrative controls should be the second choice after engineering controls. But they remain allowable. Without a reasoned explanation, MSHA prohibited this one practice for silica. “A long line of precedent has established that an agency action is arbitrary when the agency offered insufficient reasons for treating similar situations differently.” *Transactive*, 91 F.3d at 237.

MSHA’s third reason for prohibiting rotation was an asserted “longstanding prohibition against rotation of miners as a means of compliance for exposures to carcinogens,” 89 Fed. Reg. at 28,319, against which, it said, commenters had not provided “specific data” showing they would be adversely impacted by the prohibition on rotation. Yet nothing in the Mine Act or in MSHA’s regulations proclaims or embodies such a prohibition, and MSHA cited none. The purported “longstanding prohibition” is a single decision, in a 2001 rule about diesel particulate matter. *Id.* (citing that rule). MSHA has meanwhile, alongside that decision, allowed rotation as a control method against other carcinogenic hazards, such as radiation. 30 C.F.R. 57.5037 *et seq.*

“Reasoned decision-making requires that when departing from precedents or practices, an agency must ‘offer a reason to distinguish them or explain its apparent

rejection of their approach.”” *Physicians for Soc. Resp.*, 956 F.3d at 645 (citation omitted). By contrast, “[u]nexplained inconsistency” is “a reason for holding an interpretation to be an arbitrary and capricious change.” *Nat’l Cable & Telecomms. Ass’n v. Brand X Internet Servs.*, 545 U.S. 967, 981 (2005). By acknowledging only the single past decision that is consistent with its current approach and ignoring the other decisions that are contrary, MSHA has manifestly not demonstrated “awareness that it is changing position” from the latter, as an agency must do. *Encino Motorcars, LLC v. Navarro*, 579 U.S. 211, 221 (2016). Given the contrasting precedents, MSHA must “give ‘good reasons’ for adopting” one while rejecting the others. *Organized Village of Kake v. USDA*, 795 F.3d 956, 966-967 (9th Cir. 2015) (quoting *FCC v. Fox Television Stations, Inc.*, 556 U.S. 502, 515 (2009)).

Barring job rotation to reduce exposure to a carcinogen makes little sense on this record, and is contrary to the Mine Act. MSHA said rotation would “increase the number of miners exposed to the hazard.” 89 Fed. Reg. at 28,319. MSHA evidently takes for granted that miners exposed to less than the action level are, indeed, still exposed to “the hazard.” That assumption is contrary to the record, and an agency must not “minimize [contrary] evidence without adequate explanation,” *Genuine Parts*, 890 F.3d at 312.

Consider what job rotation achieves: An operator who has reduced the concentration at a job site to 30 $\mu\text{g}/\text{m}^3$ would exceed the 25 $\mu\text{g}/\text{m}^3$ action level for a worker who continues at the site for 8 hours; but if a worker stays there for only 4 hours, to be replaced by another, the worker's time-weighted average exposure over 8 hours would be only 15 $\mu\text{g}/\text{m}^3$. The resulting health risks are demonstrably lower, because MSHA found the risks arise from cumulative exposure—*i.e.*, what matters is not just the concentration of silica, but the amount of time spent in a given concentration. MSHA accepted OSHA's observation that there is “little evidence” the absolute concentration—as opposed to the cumulative exposure over time—matters until “concentrations far higher than … the existing standard of 100 $\mu\text{g}/\text{m}^3$.²⁷ App.____; MSHA-2023-0001-1289, pp.46-47 (describing the impact of absolute concentration as “dose-rate effect”).

Meanwhile, MSHA's studies were at exposure levels of 50 $\mu\text{g}/\text{m}^3$ over 8 hours, 100 $\mu\text{g}/\text{m}^3$ over 8 hours, and above. *Id.* at 46. It had no evidence that exposures at a rate well below the action level would produce the identified health risks at all. Petitioners submitted reputable studies showing the opposite. There is a “well-established … threshold” exposure before a worker is at increased risk of silicosis or lung cancer. App.____; MSHA-2023-0001-1448, pp.4-5. It follows that a worker whose exposure is below that threshold is not at significant risk. Job rotation to bring workers below that threshold is highly rational.

MSHA restated these comments but then ignored them. 89 Fed. Reg. at 28,319. MSHA noted that petitioners had shown a “well-established threshold.” *id.*, and MSHA did not disagree. Then, overlooking the very fact it had just recited, MSHA asserted that rotation would “increase the number of miners exposed to the hazard.” *Id.* The Mine Act requires that MSHA set standards based on the “best available evidence,” including “the latest available scientific data.” 30 U.S.C. 811(a)(6)(A). Simply disregarding the evidence flouts that mandate.

Furthermore, Congress expressly contemplated job rotation to address *any* hazard. “A mandatory standard shall provide that where a determination is made that a miner may suffer material impairment of health or functional capacity by reason of exposure to the hazard covered by such mandatory standard, that miner shall be removed from such exposure and reassigned.” 30 U.S.C. 811(a)(7). Thus, MSHA’s Rule prohibits in all circumstances the very thing that Congress said its regulations must require in some situations.

This provision in the Mine Act has no exception for carcinogens or any other hazard; it applies to every standard that MSHA might issue, and every “hazard covered by such mandatory standard.” *Id.* Nor can increasing the number of workers exposed be a legitimate reason to disregard the statutory mandate, because any compliance with section 101(a)(7) will necessarily increase the number of workers exposed to a substance. (Though, as discussed above, exposure to silica

does not necessarily mean exposure to the associated hazard, if the exposure is below the hazard threshold.) “If congressional intent is clearly discernable, the agency must act in accordance with that intent.” *Northport Health Servs. of Ark., LLC v. U.S. Dep’t of Health & Hum. Servs.*, 14 F.4th 856, 870 (8th Cir. 2021). Congress’s choice to expose more workers to a given hazard shows that MSHA, by resisting that outcome (although as discussed above, rotation does not increase the number of workers exposed to actual health hazard in the first place), “has relied on factors which Congress has not intended it to consider.” *State Farm*, 463 U.S. at 43.

MSHA’s demand that industry provide “specific data” showing that mine operators would be “substantially impacted” by the loss of job rotation also ignores material in the record. Petitioners did provide specific information, which MSHA simply ignored. For example, they pointed out that rotation is “sometimes the only feasible control to limit employee overexposure,” such as (1) tasks that “are not performed often enough” for engineering controls; or (2) in environments (such as confined spaces) that do not permit engineering controls. App.__; MSHA-2023-0001-1448, p.5; *see also* App.__; MSHA-2023-0001-1424, p.5; App.__; MSHA-2023-0001-1426, pp.2-3; App.__; MSHA-2023-0001-1428, p.6. MSHA did not mention or address these concerns. Moreover, the impact is plain from MSHA’s own record. Mines are currently using job rotation alongside their various controls to reach the existing PELs. Now that MSHA has prohibited that tool, some mine

operators will have to undertake expensive engineering controls—if they can even do that across their affected operations—that would not have been necessary otherwise. It was MSHA’s task to assess whether the new restriction is feasible—not the industry’s task to prove the negative.

3. MSHA failed to consider experience under other regulations.

MSHA must also consider “experience gained under this and other health and safety laws,” such as regulations under the OSH Act. 30 U.S.C. 811(a)(6)(A). There is copious experience with job rotation under the Mine Act and other health and safety laws. As discussed above, OSHA allows shift rotation to reduce exposure to some other contaminants, such as lead. Pp.19-20, *supra*. MSHA allows rotation to control exposure to various hazards, including noise, 64 Fed. Reg. at 49,597, and radiation. *See* 30 C.F.R. 57.5037 *et seq.* And by the time of the Silica Rule, OSHA had an eight-year history allowing job rotation as a permissible control for silica exposure, the very same hazard that MSHA is addressing.

MSHA did not acknowledge that OSHA has allowed rotation to mitigate silica exposure, 81 Fed. Reg. at 16,790; nor did MSHA consider what the results of that decision have been. MSHA did not contemplate its own experience with the rotation the agency permits for reducing both non-cancer hazards (such as noise) and cancer hazards (such as radiation). Nor did MSHA acknowledge the decades of experience with job rotation under its own prior silica regulations. Certainly, MSHA did not

point to any deficiencies or negative experiences of regulators, workers, or mine operators resulting from these years of experience. MSHA insisted that rotation is an improper way to control silica exposure, even though MSHA itself has been allowing that method for decades. That experience, as well as the experience of OSHA including job rotation under its parallel rule, is an “important aspect of the problem,” *Red River Valley*, 85 F.4th at 886 (citations omitted), particularly given that Congress expressly mandated rotation in some circumstances. Yet MSHA overlooked it.

Incidentally, MSHA clarified that mine operators can still use job rotation for other purposes, including as a control against other hazards. 89 Fed. Reg. at 28,284, 28,319. That clarification makes the prohibition on rotation for silica even more arbitrary. Consider two mines with comparable silica concentrations at the worksite, but one of the mines also has substantial noise. Under MSHA regulations, that mine operator is permitted to rotate miners to achieve compliance with the noise standard. Consequently, those miners could also be below the silica PEL without need for further controls—and they would rotate into a silica exposure just as much as if there were no noise concerns. By contrast, at the mine without other needs for rotation, the operator would not be permitted to undertake job rotations, and instead would be forced to install expensive engineering systems to reduce silica concentrations. MSHA’s Rule offers no rationalization for that disparity.

B. MSHA’s prohibition on respirators is also arbitrary and contrary to the Mine Act.

Besides prohibiting job rotation as a method to protect workers from silica exposure, MSHA also prohibited a common and ordinary tool for protecting workers from breathing in contaminants: respirators. 30 C.F.R. 60.13-60.14.

1. MSHA’s explanation is internally inconsistent.

Even though respirators are an effective means of limiting exposure to breathable dust, MSHA insisted respirators “must not be used for compliance because they do not address the dust generation at the source.” 89 Fed. Reg. at 28,337. As with MSHA’s similar reasoning for prohibiting shift rotation, one can apply that justification to *any* control method that makes miners safer by doing anything other than reducing dust “at the source.” Yet, while other controls like that can be used in appropriate circumstances to comply with the PEL, respirators generally may not.

MSHA gave no rational explanation for treating similar controls differently. At best, it suggested that “[r]espirators do not provide effective protection from overexposures for various reasons,” including potential issues with “fit,” “inconsistent or incorrect use,” and “hinder[ing] effective communication among miners.” *Id.* at 28,337. MSHA cited no evidence in support of these criticisms. Moreover, these criticisms, were they well-founded, would apply to any situation permitting respirators. Yet MSHA does allow respirators in two specific situations.

First, when a mine has violated the PEL, and miners have actual exposures above the PEL, MSHA allows the mine operator to use respirators temporarily, *after* the PEL is exceeded, while the operator implements controls to reduce silica concentrations. Second, MSHA allows temporary use of respirators in situations where a worker is engaged in a particular activity that will lead to exposures above the PEL, such as “occasional entry into hazardous atmospheres to perform maintenance or investigation.” 30 C.F.R. 60.14(a)(2). Were it true that respirators provide insufficient protection for “overexposures,” these are the situations in which they would be least appropriate, but instead these are the only two for which MSHA condoned respirators. Petitioners appreciate and agree with the decision to allow respirators, even if only temporarily, while a mine operator remediates an overexposure or undertakes a task producing an overexposure. But, having properly recognized that respirators can be effective in those cases, it was irrational for MSHA to deny that respirators could provide effective protection in ordinary operations. The Court “can[not] … uphold agency action that is internally inconsistent.” *Firearms Regul. Accountability Coal.*, 112 F.4th at 520.

MSHA also invoked a limitation from Mine Act section 202(h) that respirators cannot be a “substitute for engineering controls in the active workings.” 89 Fed. Reg. at 28,334. But section 202(h) does not mandate the restrictive approach here. That provision applies only to coal mines, as MSHA itself admitted,

id.; see also 30 C.F.R. 70.2 (defining “active workings” as certain areas in coal mines); and it applies only to a specific hazard, namely “respirable dust.” 30 U.S.C. 842(h). To be sure, silica, when it presents a hazard, does so as particles that are respirated—the same as for diesel particulate matter, for which MSHA allows respirators as part of the ordinary hierarchy of controls, pp.35-36, *infra*. But the Silica Rule addresses this one particular chemical, not the concentration of dust, and it limits silica concentrations far more tightly than the statutory respirable dust standard (3.0 milligrams per cubic meter, 60 times higher than the new silica PEL), 30 U.S.C. 842(b)(1). The silica PEL is no more subject to section 202(h) than the diesel particulate matter PEL was. Furthermore, the Rule applies to all categories of mines, not just coal mines. As noted above, the vast majority of mines are surface metal/non-metal operations, and most are sand/gravel mines, p.7 *supra*.

MSHA said its ban on respirators is “consistent” with section 202(h). 89 Fed. Reg. at 28,334. It is equally *inconsistent* with the Mine Act, because Congress chose to impose the 202(h) limitation solely for the one specific situation it addressed, rather than to state a blanket principle against respirators. To the contrary, the statute’s broader principle is that “[w]here appropriate,” MSHA shall “prescribe suitable protective equipment.” 30 U.S.C. 811(a)(7). Indeed, MSHA previously relied on the permissibility of respirators as one reason its diesel particulate matter standard was feasible, *Kennecott Greens*, 476 F.3d at 959, so it cannot claim

section 202(h) mandates the opposite approach. In short, section 202(h) cannot excuse MSHA from making rational policy choices about respirators, a task at which the Silica Rule failed.

2. MSHA also failed to account for experience with respirators under other regulations.

As noted above, MSHA must take account of “experience gained” under the Mine Act and similar laws. 30 U.S.C. 811(a)(6)(A). MSHA failed to do so regarding respirators. Indeed, MSHA has routinely allowed broad use of respirators for compliance with exposure limits.

MSHA’s 2005 rule on diesel particulate matter allowed respirators to be “used for compliance with the [particulate] limits.” 70 Fed. Reg. 32,868, 32,955-32,956 (June 6, 2005). “[M]iners should be afforded the added protection of respirators when engineering and administrative controls are not feasible, cannot reduce [particulate] exposures to within permissible limits, or cannot achieve significant reduction in [particulate] levels.” *Id.* at 32,954. MSHA has no explanation why that usage of respirators yields sufficient protection, but the same technology is hopelessly inadequate against silica. Certainly, MSHA cited no difference between the two types of material that would make respirators function differently against one compared to the other. Diesel particulate matter consists of fine particles, and crystalline respirable silica also consists of fine particles. For both, a respirator traps the offending material in a filter.

The Court should reject MSHA’s opportunistic inconsistencies. By comparison, the D.C. Circuit vacated a rule of the Securities and Exchange Commission because the SEC opportunistically counted the costs of a particular effect flowing from the rule, without acknowledging the benefits. *Business Roundtable v. SEC*, 647 F.3d 1144, 1148-1149 (D.C. Cir. 2011). The D.C. Circuit similarly invalidated a rule by the Department of Health and Human Services because the agency had called a certain type of data unreliable and insufficient to oppose the agency’s preference, and then later in the rule relied on that same kind of data to support the agency’s conclusions. *County of Los Angeles v. Shalala*, 192 F.3d 1005, 1021-1022 (D.C. Cir. 1999). What MSHA has done here is similarly illogical. Recall that MSHA’s primary justification for disallowing job rotation was a purported “longstanding principle” that rotation is not permissible for carcinogenic hazards—a principle embodied solely in MSHA’s decision to that effect in the diesel particulates rule. MSHA relied heavily on that decision as the basis for prohibiting job rotation as a control against silica. Meanwhile, for diesel particulate matter (which is, as MSHA stressed, a carcinogen), MSHA found respirators were appropriate alongside other controls. The same conclusion should follow for silica, yet MSHA did not take account of its past precedent on diesel particulate matter, and instead offered a rationalization that was directly contrary to what it said in that previous rule. If that precedent is informative about job rotation, it should be equally

informative about respirators. MSHA has not suggested there has been any decrease in the fit or effectiveness of respirators, nor that newer scientific knowledge has undermined the earlier conclusions.

MSHA was also obligated to take account of “experience gained” under OSHA’s standard. Since 2016 OSHA has allowed respirators as a reasonable and effective compliance measure to reduce exposure to silica below the same PEL that MSHA has now adopted. *See* 29 C.F.R. 1910.1053(g) (OSHA on respirable crystalline silica). Petitioners urged MSHA to follow that example set by MSHA’s companion health and safety agency. App.__; MSHA-2023-0001-1424, pp.3-5; 7-9; App.__; MSHA-2023-0001-1426, p.3; App.__; MSHA-2023-0001-1428, pp.4-5, 10-11, 20; App.__; MSHA-2023-0001-1448, pp.27, 33. MSHA offered no explanation why it could not adopt the same approach in the Silica Rule.

II. MSHA’S ASSESSMENT OF FEASIBILITY WAS ARBITRARY AND CAPRICIOUS.

MSHA is required to assess whether a standard would be feasible for mines to comply with. 30 U.S.C. 811(a)(6)(A). As discussed above, MSHA’s purported determination of feasibility in the Silica Rule was defective because MSHA did not assess the standard actually prescribed (which prohibits rotation and use of respirators as compliance methods). Moreover, MSHA presented no evidence that any mine is currently achieving the PEL. Even if it had, MSHA’s notion, that

success at some mines would demonstrate feasibility, is an improper and arbitrary and capricious rubric.

“Feasible,” the Supreme Court has said (regarding the OSH Act) means “capable of being done.” *Am. Textile Mfrs.*, 452 U.S. at 508-509. MSHA’s purported evidence that its standard can be achieved was, as noted above, a collection of sampling data with many samples below the new PEL. MSHA claimed those data show “many mines” are regularly reaching the PEL for silica for “many miners.” 89 Fed. Reg. at 28,288. Tables VII-1 and VII-2 in the Rule reveal the details that tell the full story. *Id.* at 28,278-28,279. At metal mines, only 51.6% of samples were at or below the new action level. In other words, 48.4% were above. The *average* sampling result at metal mines was 49.1 $\mu\text{g}/\text{m}^3$, essentially the same as the PEL. At sand and gravel mines the situation was not much better, with 42% of samples above the action level and an average of 38.7 $\mu\text{g}/\text{m}^3$. Worse, across metal mines, 27% of samples were above 50 $\mu\text{g}/\text{m}^3$, the Rule’s new PEL, and 21% of samples across sand and gravel mines were above that level.

The reality is likely even more discouraging than those numbers suggest. Many mines, like those mining true limestone (calcium carbonate), have no silica present in the substance being mined. Other mines, such as those dredging sand or gravel underwater, create virtually no risk of exposure to respirable silica. App. __; MSHA-2023-0001-1448, p.21. MSHA did not separately account for or exclude

such mines aside from its dataset. The samples showing low silica include these mines with no silica, so that, among mines that are managing actual silica exposure, the proportion of samples above the new PEL are much higher than MSHA acknowledged. Even under MSHA’s own characterization of the data, many mines clearly struggle to achieve silica concentrations, in the air outside any personal protective equipment that miners use, that are below the new PEL.

Furthermore, MSHA presented no evidence that *any* mine can achieve the standard the Rule established, because it analyzed its sampling data solely by “commodity category” (such as metals, coal, stone, etc.), not by mine or mine operator. 89 Fed. Reg. at 28,277. MSHA recognized this reality with respect to the action level. The data showing 52% of samples were below the action level do not mean 52% of mines are consistently below the action level. Rather, mine operators had achieved the action level “for more than half of all miners sampled.” *Id.* at 28,288. MSHA admitted, given those data, that “for some mines, consistently achieving” the action level “for all the miners it employs could be a substantial challenge.” *Id.*

The data support, and do not foreclose, a similar conclusion regarding the PEL. The 27% of exceedances at metal mines, *id.* at 28,278-28,279, does not mean 27% of metal mines are failing to achieve the PEL at all; rather, it means that across metal mines, 27% of *miners* sampled faced airborne concentrations above the PEL.

MSHA implicitly acknowledged this reality: “[M]ines in each commodity category have already achieved” 50 $\mu\text{g}/\text{m}^3$ “for most of the[ir] miners.” *Id.* at 28,284. MSHA did not indicate that *any* mine had achieved that level for *all* of its miners.

Yet the standard in the Silica Rule is that every miner, all the time, must see only exposures below the PEL. *Every* sample above the PEL constitutes a violation. 30 C.F.R. 60.10. This is a particularly harsh standard given that the measurement of silica concentrations at these levels is subject to significant experimental uncertainties, with the spread of measurements ranging over a factor of four or more. *See* p.12, *supra*. The same mining situation might readily generate samples above and below the PEL even if the actual silica concentration is solidly below. Meanwhile, 27% of miners at metal mines currently see concentrations in air, at least according to the sampling measurements, above that level. These realities belie any claim that mine operators can successfully reduce air concentrations below that level—technologically or economically.

Moreover, under the previous standard, a mine operator had a straightforward solution to air concentrations above the former PEL. The miners could wear respirators to manage actual exposures.⁶ Now, MSHA has prohibited the general use of respirators as an exposure control. MSHA’s new standard is 50 $\mu\text{g}/\text{m}^3$,

⁶ Sampling measurements are taken outside a miner’s respirator.

achieved all the time, for all miners across the entirety of an operation, without respirators. The evidence does not show mine operators can achieve *that* standard.

Instead of analyzing whether it is actually feasible for mines to do what MSHA is demanding, MSHA relied on its misinterpretation of a D.C. Circuit case, *Kennecott Greens*, 476 F.3d 946. MSHA asserts that case means MSHA must only “demonstrate a reasonable possibility that a typical firm can meet the permissible exposure limits in most of its operations.” 89 Fed. Reg. at 28,276 (quoting 476 F.3d at 958). This Court has not adopted that phrase, and it is contrary to the ordinary meaning of “feasible” set forth by the Supreme Court. “Feasible” means “capable of being done,” *Am. Textile Mfrs.*, 452 U.S. at 504, not merely “reasonably possible.”

MSHA’s analysis does not even pass muster under *Kennecott Greens*. MSHA claims authority, per *Kennecott Greens*, to issue “technology-forcing” rules. 89 Fed. Reg. at 28,276. The power to force technology, if the Mine Act does indeed allow that (a proposition that petitioners dispute), is beside the point. MSHA has not suggested there are technologies under development, or in use only at the most technologically advanced mines, which would materially reduce silica concentrations. Meanwhile the statistics, as discussed above, do not show that the use of engineering controls is achieving silica concentrations below the PEL throughout the mine.

The core issue is that a mine encompasses multiple different operations, not just at the mine face but through the processing of material in surface facilities. Mine operators simply cannot use the available engineering controls to manage silica concentrations in a variety of important portions of typical mining operations. Multiple commenters pointed this out. For example, NMA told MSHA that ventilation controls are not effective for silica released by a widespread source like “an entire mill or crushing facility.” App. __; MSHA-2023-0001-1428, p.6. NMA also pointed out that for activities outside in windy areas, engineering controls are generally not effective. *Id.*; App. __; MSHA-2023-0001-1424, p.5. MSHA’s response was to invoke the NIOSH “best practice guides” and administrative controls as a backup, 89 Fed. Reg. at 28,284; but as discussed above, pp.21-22, *supra*, those guides, and ordinary administrative controls, include the practice of job rotation that MSHA is prohibiting.

MSHA also retreated to its statistics, even though those statistics, aggregated across mining operations, could not refute the key point. Here too, MSHA’s explanations were internally inconsistent. Petitioners asked MSHA to reduce the Rule’s heavy burden of constant sampling, by specifying controls as safe harbors for certain job tasks and categories. App. __; MSHA-2023-0001-1424, p.10; App. __; MSHA-2023-0001-1426, p.2. App. __; MSHA-2023-0001-1428, pp.12-13; App. __; MSHA-2023-0001-1448, pp.18, 22. OSHA did this (in its “Table 1”) for workplaces

spanning the rest of the economy. 81 Fed. Reg. at 16,458. MSHA said it could not because “mining involves a wide range of activities, each with its own potential for different dust generating sources and potential silica exposure.” 89 Fed. Reg. at 28,304. And “miners may work at multiple job positions or tasks throughout the shift or a workweek.” *Id.* True, mining involves a wide range of activities, a given miner may work in multiple distinct types of operation across the mine. Given that reality, it follows that aggregating data into five buckets of major commodity categories cannot show the new standard is feasible. That some samples for some miners were below 50 µg/m³ cannot show any mine is able to reach that level at other parts of its operation. After all, an asserted lack of confidence that samples from one operation or task are representative of another is exactly why MSHA insisted on frequent sampling rather than a list of “safe harbor” controls. An agency’s “reasoning cannot be internally inconsistent.” *ANR Storage Co. v. FERC*, 904 F.3d 1020, 1024 (D.C. Cir. 2018).

Kennecott Greens asked whether a “typical firm” will be able to achieve the standard in most of its mines. 476 F.3d at 959. The statistics, coupled with petitioners’ input, show a typical firm will usually fail MSHA’s new standard with respect to certain types of operation at all its mines.

Finally, MSHA ignored an important qualification in *Kennecott Greens*: “[A]n agency’s burden of proving feasibility is ‘greatly ease[d]’ if employers are

permitted to require employees to use respirators if the exposure limits cannot be met by other means.” 476 F.3d at 959. The rule at issue in *Kennecott Greens* (the diesel particulate matter rule) allowed that method, and that flexibility was important to the court’s conclusion. The Silica Rule stripped that flexibility away, so MSHA’s reliance on *Kennecott Greens* is misplaced.

III. MSHA IGNORED THE UNCERTAINTIES IN EXPOSURE MEASUREMENTS.

Under the Silica Rule, any single sample above the PEL constitutes a violation necessitating corrective action. 30 C.F.R. 60.10, 60.13(a). But measurements of silica exposure are inherently imprecise. Sampling of air and the resulting analysis of the collected dust are not as simple as measurement tools like yardsticks.

The record demonstrates these uncertainties. MSHA’s own reference documents for its standard measurement techniques show measurement-to-measurement variation of roughly a factor of four. App.__; MSHA-2023-0001-0026; App.__; MSHA-2023-0001-0038. OSHA scientists, with substantial experience in measuring silica, asserted there should be no violation cited for a sample less than 17% above the PEL, because “there could be that much error” in the measurement. App.__; MSHA-2023-0001-0965, p.96. NIOSH’s data assessed uncertainties as well. App.__; MSHA-2023-0001-0771, pp.273-274. Petitioners provided additional detail on the errors and uncertainties. 89 Fed. Reg. at 28,317

(citing comments); App.__; MSHA-2023-0001-1428, pp.14-15; App.__; MSHA-2023-0001-1448, pp.3, 14.

Petitioners asked MSHA to acknowledge these realities by establishing an error band, or some similar method for translating sampling measurements into reasonable assessments of compliance. App.__; MSHA-2023-0001-1428, pp.14-15; App.__; MSHA-2023-0001-1424, p.3. MSHA has routinely done this in the past, because “generally accepted industrial hygiene principles for health standards ... include an error factor in determining noncompliance to account for measurement uncertainty.” 84 Fed. Reg. 24,814, 24,907 (May 1, 2014). For example, MSHA’s coal-dust rule specified that noncompliance would only arise based on a statistically meaningful collection of samples, depending on the number of samples and the extent to which they exceeded the PEL. *Id.* at 24,969. The “true dust concentration,” MSHA recognized, may be different from the measurements made by sampling devices at such small concentrations. *Id.* at 24,969-24,970. That statistical approach was designed to give MSHA adequate confidence, before any action, that the true concentration at a mine was actually above the coal dust PEL.

Id.

Coincidentally, the Silica Rule, in an ancillary section, continued MSHA’s approach for coal dust by maintaining and adjusting MSHA’s error bands. 89 Fed. Reg. at 28,477-28,478.

MSHA refused to do the same for silica. Instead, it stated that measurements in the range of the action level and PEL are technologically possible. *Id.* at 28,317. Yet again, MSHA offered a rationale that cannot explain the difference in treatment. The coal-dust PEL is 2 *milligrams*, not micrograms, per cubic meter, 40 times larger than the silica PEL; and measurements in that range are obviously technically possible (given MSHA set that PEL at least a decade ago). Evidently the ability to measure in the range of the PEL and action level does not eliminate the need for an error factor; and MSHA’s failure to recognize its own precedent is arbitrary and capricious.

What MSHA realized in the coal-dust rule, and ignored in the Silica Rule, is that the limit of quantification simply identifies the smallest concentration that can be reliably distinguished from having zero silica at all. *Id.* at 28,436. That this limit is below 25 $\mu\text{g}/\text{m}^3$ does not mean a concentration near 25 $\mu\text{g}/\text{m}^3$ or 50 $\mu\text{g}/\text{m}^3$ can be measured with zero uncertainty or error. To the contrary, in MSHA’s own labs, the uncertainty can be about 12 $\mu\text{g}/\text{m}^3$, a substantial fraction of the 50 $\mu\text{g}/\text{m}^3$ PEL. *Id.* at 28,436-28,437. MSHA ignored these basic realities about measurement uncertainty, and instead asserted its “confiden[ce] that current sampling and analytical methods for respirable crystalline silica provide accurate estimates of measured exposures.” *Id.* at 28,317. It cited no basis in evidence for that confidence, beyond the existence of sampling methods complying with an applicable standard

for measurement techniques: “Because there are multiple sampling methods that comply with the ISO [International Organization for Standardization] 7708:1995 standard and variations in laboratory analysis methods [sic].” *Id.*

Besides being incoherent, that sentence defies reality. Nothing in ISO 7708 suggests measurements have perfect accuracy with no uncertainty or error. MSHA’s own labs, operating under the ISO standard, have substantial uncertainties in silica measurements. App._; MSHA-2023-0001-1113. And MSHA gave no explanation why this particular ISO standard would eliminate all possible uncertainties and errors to justify an approach different from OSHA’s. App._; MSHA-2023-001-0965, p.96. There are surely laboratories measuring coal dust in compliance with the ISO standard, yet MSHA continues to acknowledge that an error factor is warranted for those measurements.

The sampling techniques for silica and coal dust are essentially the same. *See* 89 Fed. Reg. at 28,289 n.47 (explaining how coal-dust samplers can be reconfigured for silica). If the measurement uncertainty of much larger quantities is a reality that MSHA must account for under “generally accepted industrial hygiene principles,” 84 Fed. Reg. at 24,907, it is hard to see how measurements around $50 \mu\text{g}/\text{m}^3$ can be so perfectly precise that any sample reported above that number represents an actual overexposure.

MSHA did not mention or assess the contradiction between its statements on this issue in the coal-dust rule and the Silica Rule. Nor did MSHA acknowledge OSHA's significantly different approach—even though, as discussed above, MSHA must take account of experiences under other workplace safety programs. Further, MSHA's insistence that silica measurements are simply “accurate,” full stop, with no uncertainty, “runs counter to the evidence before the agency,” *State Farm*, 463 U.S. at 43, including statements about this issue by OSHA and NIOSH. MSHA’s refusal to acknowledge the basic reality of measurement uncertainty is “so implausible that it [can]not be ascribed to … the product of agency expertise.” *Ibid.*

IV. MSHA’S DEMAND FOR INITIAL SAMPLING FROM ALL MINES, REGARDLESS OF CIRCUMSTANCE, IS ARBITRARY AND CAPRICIOUS.

The proposed rule would have allowed an operator to avoid expensive sampling if “objective data” “confirms miners’ exposures are below the proposed action level.” 88 Fed. Reg. at 44,856. “Objective data” would mean “information such as air monitoring data from industry-wide surveys or calculations based on the composition of a substance that indicates the level of miner exposure to respirable crystalline silica associated with a particular product or material or a specific process, task, or activity.” 89 Fed. Reg. at 28,322. OSHA allows the use of “objective data” for this purpose, for good reason. If, for example, a mine’s host

rock has little or no silica, the mining operations will not release respirable crystalline silica into the air.

Nonetheless, MSHA rejected this approach in the Silica Rule. Its explanations for the about-face were nonsensical. First, MSHA asserted objective data “are not likely to represent mining conditions closely resembling” those at a given mine. *Id.* at 28,323. To the contrary, MSHA’s proposed concept of “objective data” included a requirement that “[s]uch data must reflect mining conditions closely resembling, … the processes, types of material, control methods, work practices, and environmental conditions in the operator’s current operations.” 88 Fed. Reg. at 44,902. MSHA’s own proposal contradicted the assumption it made in rejecting the proposal. “[I]f the result reached is illogical on its own terms … [it] is arbitrary and capricious.” *GameFly*, 704 F.3d at 148 (citation omitted).

Second, MSHA claimed that “objective data … may be too subjective to confirm that sample results are below the action level.” 89 Fed. Reg. at 28,323. A criticism about subjectivity is a strange complaint about a category of data that is defined as “objective.” Some of the data sources that MSHA labeled as too “subjective” are NIOSH Health Hazard Evaluations and historical sampling data from MSHA. MSHA’s theory that these are too “subjective” is contrary to the very nature of these data.

Third, MSHA worried that “objective data … utilized a historical approach, while the collection of samples will more accurately reflect respirable crystalline silica concentrations under current mining conditions.” *Id* at 28,323. That fear is also contrary to MSHA’s own proposal. “Objective data,” in the proposal, was required to “closely resemble[e] … the operator’s *current conditions*.” 88 Fed. Reg. at 44,902 (emphasis added). Moreover, commenters pointed out that even objective data more than 12 months old can give an accurate picture of current conditions, because most mining operations do not change that quickly. App. __; MSHA-2023-0001-1428, pp.26-27. MSHA ignored its proposal and the comments on this point.

In *Evergreen Shipping*, the D.C. Circuit found an agency’s rule to be arbitrary because “[t]he illogic of [the agency’s] position is illustrated by the very reason it offered in its support.” 106 F.4th at 1118. In *GameFly*, it held that an agency could not “justify the terms of service discrimination its remedy leaves in place … based on the companies’ use of different mailers when the use of different mailers is itself the product of the service discrimination.” 704 F.3d at 149. MSHA’s illogic about objective data is on that scale: The reasons it gave for eliminating this means of compliance contradicted the terms of the proposal. And eliminating the objective-data option caused an increase in the costs of the rule by \$19 million per year—over 20% of the cost of monitoring. 89 Fed. Reg. at 28,362.

V. MSHA'S MEDICAL REQUIREMENTS ARE CONTRARY TO LAW AND IRRATIONAL.

Finally, the Silica Rule imposes fresh obligations for medical surveillance. A mine operator must offer extensive medical examinations to all existing miners, and must provide (not just offer) such examinations to all new miners, regardless of what exposure any of them actually experiences. The X-ray results in particular must be reported to NIOSH on an ongoing basis. The Mine Act does not permit such a broad-based medical mandate; and the requirement to provide medical information to the government is contrary to observations MSHA had made.

A. New miners have had no exposure.

MSHA can “prescribe the type and frequency of medical examinations” to be provided by an operator “*to miners exposed to [identified] hazards* in order to *most effectively determine* whether the health of such miners is adversely affected by such exposure.” 30 U.S.C. 811(a)(7) (emphasis added). The statute offers no other authority for requiring operators to provide medical examinations. Thus, before MSHA can impose the cost of a medical examination upon a mine operator, the miner must first be “exposed to” the “hazard” at issue (here, respirable silica). *Id.* Second, the medical examinations must “most effectively determine whether the health” of miners “is adversely affected” by exposure to the hazard at issue. *Id.* The Silica Rule fails both conditions.

First, it requires operators to provide medical examinations to all new miners. 30 C.F.R. 60.15(c). “New,” in this sense, means those “who begin[] work in the mining industry for the first time.” *Id.* Being new to mining, these individuals cannot have been exposed to the hazards of silica in mines. So, section 101(a)(7) does not authorize MSHA to compel medical examinations for them.

Second, even for existing miners—entitled to medical examinations under the Rule that they may choose not to receive, 30 C.F.R. 60.15(b)—an operator must offer the examinations for “all miners employed at the mine.” *Id.* But MSHA’s data showed that about 65% of all samples at metal/non-metal mines, and 74% at coal mines, were below the action level. 89 Fed. Reg. at 28,279, 28,281. Those samples represent instances of miners not exposed to silica hazards, or at least miners who cannot be presumed to have exposure. The statutory prerequisite for an operator’s obligation to provide a medical examination is that the miner was “exposed” to the relevant hazard. 30 U.S.C. 811(a)(7). “Congress’ use of a verb tense is significant in construing statutes,” *United States v. Wilson*, 503 U.S. 329, 333 (1992); here the verb form—and the use of a qualifying phrase in the first place—must limit the scope of miners to whom an operator must provide medical examinations. MSHA paid no heed to that statutory limit. OSHA’s silica rule, by contrast, requires that an employee first “be occupationally exposed to respirable crystalline silica at or above

the action level for 30 or more days per year” before “medical surveillance” is imposed. *See* 29 C.F.R. 1910.1053(i)(1)(i).

B. The required examinations are not prioritized to determine the effects of exposure on miners’ health.

Separately, MSHA’s medical examinations must “most effectively determine whether the health” of miners “is adversely affected” by exposure to the hazard at issue. 30 U.S.C. 811(a)(7). Not only does the Rule mandate medical examinations for a population of miners who have *never* been exposed to respirable silica; it makes the examinations non-mandatory for the experienced miners who might have been exposed. *See generally* 30 C.F.R. 60.15. A structure that prioritizes medical examinations for miners who have never been exposed to the hazard at issue cannot possibly “most effectively determine” whether miner health is affected by that hazard. The Rule thus “fail[s] to consider an important aspect of [the] problem,” *Red River Valley*, 85 F.4th at 886.

The costs of MSHA’s medical surveillance requirements are massive. Petitioners explained that MSHA’s examinations would involve 200,000 miners at “more than 11,000 mines” dispersed across the country and that such a large surge in market demand would “impose significant costs” and “stress the capabilities of service providers and accredited laboratories to conduct the examinations.” App.__; MSHA-2023-0001-1428, p.13; *see also* App.__; MSHA-2023-0001-1424, pp.10-11. MSHA responded that because the Rule requires “procedures conducted

in the general population,” “mine operators will not experience difficulty” in finding enough providers. 89 Fed. Reg. 28,296. Even assuming MSHA is correct that providers are not difficult to find, that does not address the simple economic reality that increasing the demand for providers, particularly in lower-population areas, will significantly increase costs. And with no connection to silica exposure, the benefit is unclear at best.

C. MSHA lacked substantial evidence that X-ray services are available at the necessary scale.

The medical examinations must include chest X-rays reviewed and “classified” by “NIOSH-certified B reader[s].” 30 C.F.R. 60.15(a)(2)(iii). Petitioners objected there are not enough B readers in many of the areas where mines are located. App.__; MSHA-2023-0001-1424, p.13; App.__; MSHA-2023-0001-1428, p.17; App.__; MSHA-2023-0001-1448, p.13. MSHA’s response was that X-rays can be taken using digital imaging equipment, with the images then transmitted to wherever B readers are more common. 89 Fed. Reg. at 28,297. But that rationale assumes the necessary digital X-ray imagers are available in the areas where mines are located. MSHA had zero support in the record for that assumption. “In reviewing an action challenged as arbitrary and capricious,” a court assesses “whether the underlying factual judgments are supported by substantial evidence.” *Ctr. for Auto Safety v. Fed. Highway Admin.*, 956 F.2d 309, 313 (D.C. Cir. 1992) (Thomas, Circuit Justice). An entirely unsupported assumption does not qualify.

D. Mandatory filing of X-ray results with the government violates miners' privacy.

MSHA had proposed that examination results must be “kept confidential and provided only to the miner.” 88 Fed. Reg. at 44,914. MSHA based this restriction on its “experience with coal miners’ medical surveillance.” *Id.* “[C]onfidentiality regarding medical conditions is essential and … encourages miners to take advantage of the opportunity to detect early adverse health effects due to respirable crystalline silica.” *Id.* But MSHA then required exactly what the proposal had said was important to avoid. The results from every chest X-ray must be sent to NIOSH, to be included in a new government database. 30 C.F.R. 60.15(d)(2).

Filing every miner’s chest X-ray result with NIOSH is the opposite of confidentiality, especially in an age of frequent data breaches. MSHA theorized the database would enable “occupational health research” and thereby “provide a public health benefit.” 89 Fed. Reg. at 28,345. That purported “public health benefit” comes at a serious cost—the privacy of the miners, and the likelihood that some miners will be discouraged from taking advantage of the medical services being offered to them. MSHA said in the proposal that confidentiality is “essential” to encourage miners to accept medical examinations, for the sake of their individual health by early detection of health effects. In the Rule, as it stripped miners of the confidentiality of key medical records, MSHA said nothing about that point. By ignoring an issue MSHA identified as “essential,” the agency “entirely failed to

consider an important aspect of the problem.” *McClung*, 788 F.3d at 828. MSHA also traded the actual health of individual miners for a putative future “public health benefit” derived from potential research. MSHA thereby “relied on factors which Congress had not intended it to consider.” *Id.*

Moreover, the public health benefit is illusory—the tradeoff itself will make the data biased. Per MSHA’s observation in the proposal, confidentiality is necessary to encourage miners to participate in medical examinations. If X-ray results are to be sent to the government, automatically and by rule, many miners will (according to MSHA) be dissuaded from participating. The resulting database will include X-rays only from miners who were most likely to accept X-rays on these terms—not a representative cross-section of miners. MSHA appears not to have noticed this problem before cavalierly requiring all this personal health information to be shared with NIOSH. In that sense, too, it “failed to consider an important aspect of the problem.” *Id.*

Contrary to the APA’s requirements for rulemaking, MSHA provided no public notice that it might require the filing of X-ray results with the government. Instead, MSHA pointed in the opposite direction by saying that confidentiality of medical records is paramount. “[A]n agency’s notice is sufficient if it allows interested parties to offer ‘informed criticism and comments.’” *Citizens Telecomms. Co. of Minn.*, 901 F.3d at 1001 (citations omitted). An agency must provide enough

notice to “allow for informed participation by interested parties” in each “portion of the rulemaking.” *Id.* at 1005. MSHA’s statement that it intended to respect medical confidentiality did not allow the public to offer feedback on the government surveillance that MSHA ended up imposing.

VI. VACATUR IS THE PROPER REMEDY.

The errors discussed above are not harmless. The prohibitions on job rotation and respirators as controls against silica exposure will make it far more difficult, and indeed infeasible, for mine operators to comply with the Rule. MSHA misused statistical information to conclude that levels currently being achieved in some parts of mines only by means of these tools are feasible throughout a mine when these methods are prohibited. An error is harmless only “where ‘there is not the slightest uncertainty as to the outcome’ of the agency’s proceedings on remand.” *Calcutt v. Fed. Deposit Ins. Corp.*, 598 U.S. 623, 629-30 (2023). MSHA cannot claim the Silica Rule, as adopted, was obligatory to that degree. Indeed, it is certainly possible MSHA would reach a different outcome once this Court corrects its errors; after all, its sister agency OSHA came to opposite conclusions on the key points.

MSHA’s errors in the Silica Rule are numerous and infect the entire rule. MSHA’s reasoning is internally inconsistent and violates key provisions of the Mine Act. “The ordinary practice is to vacate unlawful agency action,” *United Steel v. MSHA*, 925 F.3d 1279, 1287 (D.C. Cir. 2019), and remanding without vacatur would

be an “exceptional remedy,” *Bridgeport Hosp. v. Becerra*, 108 F.4th 882, 890 (D.C. Cir. 2024). This case does not warrant such an exception; vacatur will not disrupt any settled transactions and no “egg[s] ha[ve] been scrambled,” *Sugar Cane Growers v. Veneman*, 289 F.3d 89, 97 (D.C. Cir. 2002).

CONCLUSION

For these reasons, the Court should vacate the Silica Rule.

November 22, 2024

Respectfully Submitted,

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CERTIFICATE OF COMPLIANCE

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